

make his living—nay, to be protected in doing so as long as he did not exercise his calling to the detriment of the community. Of course this view will not suit the spasmodic writers of letters to the *Times* and other newspapers with their passionate appeals on behalf of the harmless Hedge-Sparrow and the unappreciated Tomtit. Who is there that systematically persecutes either? Certainly not the bird-catcher even of the blackest dye, begrimed with the soot of Seven Dials or Spitalfields. Are there not just as many Hedge-Sparrows and Tomtits in this country as there is room or food for? Are there not now many more Skylarks and Chaffinches than there were before heaths were broken up and bogs drained, plantations made and “vermin” killed by the game-keepers? But our excellent enthusiasts cannot see this: with them are alike despicable and detestable the gardener who will not believe that the Bullfinch is actuated by the purest and most benevolent motives in nipping off his apple-buds, and the farmer who doubts whether the Sparrow’s ravages in his ripening grain are counter-balanced by that saucy bird’s services in the cabbage-garden. To them all birds are at all times bent on benefiting the human race. No statement in this direction is too gross for such people to swallow. The last we have met with is one of the most absurd. In the *Quarterly Review* for the present month (p. 402), we read that from some nameless moors the sportsman has been driven by the vipers, and the abundance of the vipers is owing to the extermination of “their natural enemy, the beautiful peregrine falcon!” Such a story is not worth refutation; its original teller has said “that which is not,” and the man who gravely repeats it is an idiot or worse.*

But now to conclude, we beg leave to offer the following suggestions:—

1st. That the “Wild Fowl Protection Bill” be passed as originally introduced, with the possible exception of the sentence whereby fowls proved to have been imported from any foreign country are exempted.

2nd. That a “Bill for the Regulation of Bird-catchers” be brought in—its chief feature being the absolute prohibition of bird-catching by means of traps, springes, or nets during the spring months—say from April 1 to July 1, and that at other times of the year such engines should not be used within (say) 50 yards of any highway.

3rd. That the “sport” of Swallow-shooting be absolutely and at all times prohibited; and finally we may add that if a Chancellor of the Exchequer should ever take a hint from North Germany and lay a tax on birds in cages, we in the name of our Nightingales shall thank him.

FAUNA DER KIELER BUCHT

Fauna der Kieler Bucht. Zweiter Band: Prosobranchia und Lamellibranchia, nebst einem supplement zu den Opisthobranchia. Mit 24 tafeln. Von H. A. Meyer und K. Möbius. Small folio, 139 pp. (Leipsic, 1872.)

WE are rejoiced to see the second volume of this excellent “*ouvrage de luxe*.” Like the first volume, the second bears evident marks of having been prepared

* It is painful, however, that such folly should be countenanced by reviews which in other respects are deservedly of high repute. But in no department of criticism is there such a want of competent writers as in Zoology. We are not exaggerating when we say that nine out of ten reviews of zoological works are written by men who have no sound knowledge of the elements of the science.

with the greatest care. The illustrations are inimitable and life-like: we venture to say that no such figures of Mollusca and their shells have ever been published in any country.

The introduction to the present volume contains an account of the currents, saline ingredients, and temperature of the water in Kiel Bay, together with elaborate tables of the latter properties in comparison with those in some other parts of the North Atlantic and in North Japan, as well as a notice of the peculiarities, distribution, and frequency of occurrence of the Kiel Bay Mollusca, and relative abundance of the genera and species in proportion to that of the Mollusca in Great Britain, Christianiafiord, and the Sound.

The body of the work embraces the subclass Prosobranchia (comprising the orders Cyclobranchiata, Pectinibranchiata, and Siphonibranchiata) of the class Gastropoda, a supplement to the first volume in respect of the other sub-class Opisthobranchiata (orders Pleurobranchiata and Pelliibranchiata), and the Lamellibranchia (order Lamellibranchiata of the class Conchifera), with short diagnoses in Latin, and full descriptions in German of all the species given in the work. The admirable figures amply illustrate every character of the living animal and its shell, some being of the natural size, and others magnified 300 times.

We are not told whether any Brachiopod, marine Pulmonobranch, or Cephalopod inhabits Kiel Bay; but assuming the list to be complete, we find 23 species of Conchifera, and 40 of Gastropoda, being altogether 63 species. There are 562 species of Mollusca in the British seas. This great difference may arise from the brackish nature of the water in Kiel Bay; and to the same cause may be attributable the small size of all the Mollusca, except *Mytilus edulis*, which is usually stunted on the open sea coast.

The authors have satisfactorily shown that the genus *Triforis* (erroneously changed by Deshayes to *Triphoris*) is distinct from *Cerithium*, although belonging to the same family, between which and *Cerithiopsidae* it appears to be intermediate. The principal difference consists in the animal of *Triforis* having a retractile proboscis; and Lovén’s description of *T. perversa* was doubtful on that point. Other writers on the Mollusca have done nothing to help us in the classification of this difficult group. The shells are distinguishable by the shape of the mouth, which is very peculiar in *Triforis*; and the sculpture of the apex differs from that of *Cerithium*—an important character which might have been advantageously represented in the plate before us.

We hope the authors will not take amiss a few slight criticisms. Their *Rissoa inconspicua* is not Alder’s species, but *R. albella* of Lovén. *R. octona* of Linné is probably a variety of *Hydrobia ulva*, judging from his description and the habitat “in Sveciæ subpaludosis.” The species described and figured by Meyer and Möbius as *R. octona* has two more (viz. ten) whorls; it is not horn-colour, but variegated; the mouth is oval, and not “fere orbiculata;” and Linné does not mention the ribs which characterise the Kiel Bay species. The figures of *Rissoa striata* do not show the foot-appendage or caudal cirrus, although it is described in the work. *Amphisphyræ* should be *Utriculus*.

We wish the authors could have given us some information as to the *modus operandi* of the *Teredo* in excavating its cylindrical tube, instead of merely quoting Kater's opinion that the shell is the boring organ. One thing is certain, and indeed has been admitted by Kater, that the foot of *Teredo* is in front, occupying the bottom of the tube, while the shell at the same time occupies that part of the tube which lies immediately above the foot, and is closely pressed against the sides of the tube. To suppose that the position of the foot and shell could be reversed by the animal, so as to make the shell lie at the bottom of the tube and the foot on one side during the process of excavation, is quite inconsistent with our knowledge of the *Teredo* and of the habits of other boring and burrowing Mollusca. *Solen*, *Cardium*, *Natica*, *Actæon*, and many other kinds burrow in sand by means of their strong muscular foot; *Pholas dactylus* occasionally does the same; and the limpet uses its foot only for excavating the hard rock in which it is sometimes more or less deeply imbedded. The gradual enlargement throughout of the tube of *Teredo*, especially at the opening (where the siphons are placed), cannot possibly be caused by the shell, which invariably lies at the other end; and the prickles which cover the surface of the shell, and enable it to act as a fulcrum or *point d'appui*, could not be renewed if they were continually employed in rubbing away the wood. There can scarcely be a question that the foot is the sole instrument of perforation in *Teredo*, as it is in *Solen*, *Pholas*, and *Patella*.

J. GWYN JEFFREYS

OUR BOOK SHELF

The Student's Manual of Comparative Anatomy and Guide to Dissection. Part I. (Mammalia). By G. H. Morrell, M.A. (Longman and Co.)

THIS work is in two parts, which are of such different characters that they must be considered separately. The first is intended to include a short and complete summary of the main facts of the anatomy of Mammalia. This is a large undertaking, and one which a resident in Oxford has not full opportunities of completing; for the advantages in any place other than London, are not sufficient to enable any single student, however enthusiastic, to get familiar with many of the subjects discussed. There is a want of vividness and point in many of the statements, several of which are too inclusive. Referring to the lobulation of the kidneys, the seals and whales are mentioned as presenting it, but why are the ox, otter, and rhinoceros omitted? The peculiarity of the stomach of the chevrotain is not referred to, and all we can possibly infer as to that of the peccary or hippopotamus is that it is constricted into two or three portions, which is undoubtedly not enough. Half a page only is devoted to the peculiarities of the liver throughout the class, and that of man is called simple, while that of the Ruminants is included among the multifid. The spleen of the marsupials is stated erroneously to be bent or bilobed.

But the great and inexcusable imperfection of the work is the omission of the description of the generative system, which no amount of argument could persuade us will prove of the slightest good in anyway. It only engenders a mystery and curiosity in the mind of the younger students, as to peculiarities of structure, which if they were treated in the ordinary routine, would, as they undoubtedly are among medical students, be looked upon in nothing but a common-place manner.

The second portion of the work, the guide to the dis-

sections of the brain, heart, &c., of the sheep are excellent, and will be found of great value; they have long been wanted by teachers. A carefully compiled synopsis of the cerebral convolutions in man and the higher apes, from the work of M. Gratiolet, terminates the book.

Académie Royale de Belgique. Centième Anniversaire de Fondation. Two vols. (Brussels: F. Hayez, 1872.)

THESE two stout volumes, intended as a memoria of the celebration of the hundredth anniversary of the Belgian Academy, treat of a great variety of interesting and valuable matters. The Belgian Academy of Science, Literature, and Art was founded by Maria Theresa on December 16, 1772, but as December is not a very suitable month for a great public gathering of men from all parts of Europe, the Academy held its centenary fête on May 28 and 29, 1872, and it did it very royally, in presence on both days of His Majesty the King of the Belgians, who gave the opening address, and entertained members and friends on the second day in his palace at Brussels. There took part in the celebration distinguished deputies from all the countries of Europe and from America, and altogether it seems to have been a great success. In these volumes will be found a detailed account of all that was said and done, verbatim reports of all the speeches made, and of all the interesting papers read. The Academy began to make preparations for the centenary celebration in 1869 by the appointment of a commission. This commission appointed members of the various classes of science, literature and art to prepare papers giving accounts of the work done in these classes from the commencement, and others to do the same for the various literary, antiquarian, artistic and scientific subjects with which the Academy deals. From this it may be surmised that these two volumes contain matter of very great value indeed. The first paper is by M. A. Quetelet, giving a sketch (170 pages) of the history of the first century of the Academy. But the second volume will be the more interesting of the two to scientific men; we can only indicate its contents:—Astronomy in the Royal Academy of Belgium from 1772 to 1872, by M. E. Maillly; Report on the Mathematical works of the Academy during the same period, by M. J. M. de Tilly; Report on works in the Physical Sciences, Meteorology, and Physical Geography, by M. J. Duprez; Report on works in Chemistry, by M. L. G. de Koninck; Report on works in Zoology, by P. J. van Beneden; Report on works in Botany and Vegetable Physiology, by M. E. Morren; Report on works in Geology and Mineralogy, by M. G. Dewalque.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.]

Biela's Comets

THE present note is designed to show that several comets move in nearly the same orbit with that of Biela; that they probably entered the solar system as a group; and that, after making their first perihelion passage in close proximity to each other, they were, when receding from the sun, thrown into their present orbits by the disturbing influence of Jupiter.

1. *Was the comet of 1772 identical with that of Biela?*—The mean of the seven consecutive periods between January 2, 1806, and September 23, 1852, is 2437.7 days. Counting five periods of the same mean length from February 17, 1772, brings us to July 2, 1805—six months before the perihelion passage of 1806. In other words, the mean period between 1772 and 1806 was greater by about thirty-seven days than that between 1806 and 1852. The perturbations during the half century succeeding the apparition of 1772 have not been computed. It seems very unlikely, however, that the difference of periods